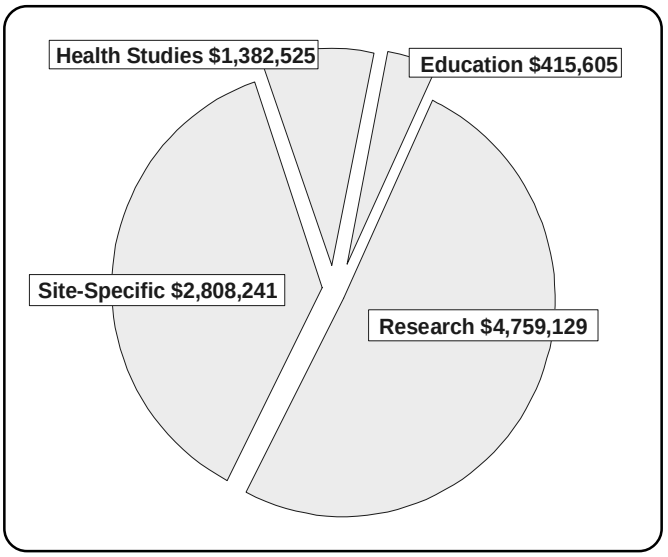
Activities in Louisiana

ATSDR in Partnership with Louisiana



The Agency for Toxic Substances and Disease Registry (ATSDR) is the lead public health agency responsible for implementing the health-related provisions of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA). ATSDR is an Atlanta-based federal agency with more than 400 employees. ATSDR's annual budget for 2002 is $78 million. ATSDR is responsible for assessing the presence and nature of health hazards at specific Superfund sites, helping to prevent or reduce further exposure and illnesses that result, and expanding the knowledge base about the health effects of exposure to hazardous substances.

ATSDR works closely with state agencies to carry out its mission of preventing exposure to contaminants at hazardous waste sites and preventing adverse health effects. ATSDR provides funding and technical assistance for states to identify and evaluate environmental health threats to communities. These resources enable state and local health departments to further investigate environmental health concerns and educate communities. This is accomplished through cooperative agreements and grants. At this time, ATSDR has cooperative agreements and grants with 31 states, 1 American Indian nation (Gila River Indian Community), and 1 commonwealth (Puerto Rico Department of Health). From 1988 through 2001, ATSDR awarded more than **$9,365,500** in direct funds and services to the state of **Louisiana.** In addition to direct funds and services, ATSDR provides technical and administrative guidance for state-conducted site activities.

ATSDR Site-Specific Activities

Public Health Assessment-Related Activities

One of the agency's important mandates is to conduct **public health assessments** of all National Priorities List (NPL) sites and of other sites where there might be a significant threat to the public health. In **Louisiana** there have been **23** sites designated to the NPL.

A **public health assessment** provides a written, comprehensive evaluation of available data and information on the release of hazardous substances into the environment in a specific geographic area. Such releases are assessed for current or future impact on public health. ATSDR, in collaboration with public health and environmental officials from **Louisiana**, has conducted **35** health assessments in the state. Following is an example of a health assessment conducted in **Louisiana.**

Delatte Metals - This site in Tangipahoa Parish, Ponchatoula, was formerly a battery recycling facility. Two separate areas were abandoned with millions of empty battery casings and leaking surface impoundments. In 1995, the Environmental Protection Agency (EPA) found very high levels of lead in the surface soil, some of which extended into residential yards where children were present. The Louisiana Office of Public Health (LOPH) did a site visit to assess the potential exposure to residents and went door-to-door around the site sharing lead poisoning prevention information. This site visit also allowed LOPD to determine the number of young children potentially exposed to lead. In cooperation with the parish health unit, free blood-lead testing was offered to the young children in the area during 1997. Children were tested and a few of them did have elevated blood-lead levels believed to be related to the battery recycling activities or debris. Follow-up was conducted by the parish health unit nurses.

A **health consultation** is a written or oral response from ATSDR to a specific request for information about health risks related to a specific site, chemical release, or hazardous material. It is a more limited response than a public health assessment. To date, **90** documented health consultations have been conducted at **38** sites in **Louisiana.** Following is an example of a health consultation conducted in the state.

> **Myrtle Grove Trailer Park (MGTP)** - In August 2001, ATSDR was petitioned to conduct a public health assessment at this site in Iberville Parish, Plaquemine. Myrtle Grove residents were concerned about their past exposure to vinyl chloride-contaminated water. ATSDR accepted the request to evaluate the residents' concerns and notified the petitioner in October 2001. Residents of the park were exposed to vinyl chloride in the past when drinking, showering, bathing, cooking, dishwashing, and swimming in water supplied by the MGTP well system, potentially from April 1994 through March 2001.
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> ATSDR determined the Myrtle Grove Trailer Park site poses no apparent public health hazard. The levels of vinyl chloride detected in the MGTP well system would not be expected to produce adverse health effects in residents (adults and children) who used the water for both household and outdoor purposes. ATSDR also concluded the additional common chlorination byproducts that were detected in the MGTP well system distribution line were at levels that would not be expected to cause adverse health effects.
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> ATSDR determined that none of the health concerns reported by MGTP residents are likely to be the result of exposure to the levels of vinyl chloride or of any other contaminant detected in the water at MGTP, either separately or combined. The results of ATSDR's investigation were documented in a health consultation released for public comment on June 18, 2002.

An **exposure investigation** collects information on specific human exposures through biological sampling, personal monitoring, related environmental assessment, and exposure-dose reconstruction. Following is an example of an exposure investigation conducted in **Louisiana**.

> **Mossville (Calcasieu)** - Calcasieu Parish is the site of a large number of companies that produce petroleum-based chemicals, chlorinated hydrocarbon solvents, and other organic chemicals. In 1998, EPA asked ATSDR to review the results of blood tests for several residents of Calcasieu Parish. The test results indicated elevated levels of dioxin-like substances (dioxin) in several of the samples. As a follow-on action in support of the Exposure Investigation (EI) results, ATSDR/DHEP and the Association of Occupational and Environmental Clinics (AOEC) conducted individualized education sessions with each community member EI participant to address the resulting data and community-based environmental issues.

In response to the test results and community concerns, ATSDR conducted an EI in 1998. Blood samples were collected from 28 residents of Mossville, a small community in Calcasieu Parish, and analyzed for chlorinated dibenzodioxins (CDDs), chlorinated dibenzofurans (CDFs), and co-planar polychlorinated biphenyls. The test results indicated unusual levels of dioxin compounds in some of the samples.

As a result of these findings, ATSDR has implemented several follow-up activities: (1) The Division of Health Studies (DHS) is conducting an expanded exposure investigation in Calcasieu Parish to determine if residents have been exposed to unusual levels of dioxin and/or volatile organic compounds (VOCs). This follow-up study began in January 2002 and will continue through 2003. (2) The Division of Health Assessment and Consultation (DHAC) is conducting a follow-up Exposure Investigation to address questions on current versus past exposures to dioxins. The environmental sampling conducted during this EI will provide results to address the concerns of current exposure to environmental dioxins in participants' homes. (3) DHAC has several ongoing projects to evaluate environmental data as it becomes available to address possible pathways and routes of exposure for the community. ATSDR staff supported a recent public meeting in collaboration with several **Louisiana** public health officials and EPA to present air monitoring results to the community. (4) The Division of Health Education and Promotion (DHEP) worked with the EPA, **Louisiana Department of Health and Hospitals**, and the community to present a symposium on environmental health for Calcasieu Parish physicians and nurses. The symposium was well attended and participants have asked for further symposia on a variety of environmental topics. (5) The Office of Urban Affairs and DHEP are working with the **Mossville Environmental Health Services Workgroup (MEHSW)** and EPA to address other environmental health and environmental justice issues. ATSDR and EPA have had continuing dialogues and meetings with community representatives/groups and our community partners, to plan and coordinate further public health actions.

A **public health advisory** is a statement of findings by ATSDR that a substance released into the environment poses a significant risk to human health. It also includes recommended measures to reduce human exposure and eliminate, or substantially mitigate, the significant risk. The advisory is issued to EPA for consideration in the management of the site and to inform the state health department, local officials, and the public about recommended activities. Following is an example of a health advisory issued in **Louisiana**.

> **Methyl Parathion** - Methyl parathion is a pesticide legally restricted to outdoor agricultural use on nonfood crops because it is chemically similar to some forms of nerve gas. In November 1996, ATSDR and EPA discovered that more than 1,100 homes in **Louisiana** were contaminated with the pesticide by two unlicensed pesticide applicators. On December 13, 1996, ATSDR issued a public health advisory warning the public of the imminent health threat presented by exposure to the pesticide. By February 1997, almost 1,000 locations in **Louisiana** were sampled for the pesticide. Toxic levels of the pesticide high enough to warrant temporary relocation (to allow EPA's remediation of the homes) of the residents were detected in a minimum of 88 homes. Also, urine samples from more than 225 residents were analyzed for a metabolite of methyl parathion to determine the extent of exposure. The LOPH collaborated with the **Louisiana Department of Agriculture and Forestry**, EPA, ATSDR, and the U.S. Army Corp of Engineers, to address the misuse of methyl parathion.

Educating Health Professional and Community Activities

Through the cooperative agreement program awarded by ATSDR, the **Louisiana Department of Health and Hospitals** has received funding as well as technical assistance for the development of more than 20 different educational tools. All of these tools relate to human health issues associated with toxic substances in the environment. Additionally, more than 2,200 Louisiana residents have attended 41 environmental health education seminars, workshops, town meetings, etc. During 2002, town meetings, press releases, and small group meetings with local government officials have been conducted in support of ongoing activities at the Calcasieu Estuary, Delatte Metals, Gulf State Utilities and Mallard Bay Landing Bulk Plant sites.

Additionally, ATSDR awarded funds to the **Louisiana Office of Public Health, Section of Environmental Epidemiology and Toxicology (SEET)**, in August 2000 to participate in the Hazardous Substances Emergency Events Surveillance project. SEET collects information which is entered into a comprehensive database which addresses hazardous substance spills, air releases, threatened releases and spills, and associated health consequences including evacuations, injuries and deaths. The database expands upon spill data collected by the National Response Center, the Department of Environmental Quality, and the Louisiana State Police.

Environmental Health Research

Minority Health Professions Foundation Research Program (MHPF) - In 1992 and 1993, $8 million was appropriated to ATSDR to continue a research program in cooperation with the Association of Minority Health Professions Schools (AMHPS). This successful research program has been funded for a second 5-year project period beginning in 1998. To affect this congressionally mandated research program, a cooperative agreement was awarded to the Minority Health Professions Foundation (MHPF), the management organization for AMHPS. The MHPF member institution in this state is **Xavier University of Louisiana**.

The main objective of this project is to conduct research on substance-specific data needs to build upon existing capabilities in molecular toxicology. This research adds to the information base necessary for developing methods to prevent or mitigate adverse human health effects related to excess exposure to toxic substances. The following studies are being jointly conducted by ATSDR and the Xavier University of Louisiana: **Multimedia Study of Manganese and Nickel in Rural and Urban Environments of New Orleans; Acute and Intermediate-Duration Toxicity of Manganese in Rodents;** and **Neurotoxicity of Manganese in Rats: Interactions**.

Health Studies

Health studies are conducted to determine the relationship between exposure to hazardous substances and adverse health effects. Health studies also define health problems that require further investigation through, for example, a health

surveillance or epidemiologic study. Following are examples of site-specific health studies and investigations that ATSDR conducted or supported in **Louisiana**.

East Iberville Parish - The objective of this study was to determine if the rates of miscarriages and stillbirths were excessive in relation to those shown in historical records and trends. An analysis was conducted of the miscarriages and stillbirths that occurred in women residing in East Iberville Parish between January 1, 1983, and December 31, 1987. An expert technical advisory group reviewed the miscarriage rates and determined that the rates were not elevated based on the criteria established in the protocol. A final report was published in September 1989.

American Creosote, Winn Parish - A health statistics review was conducted at this site to evaluate the relationship between cancer occurrence and site proximity. The review also included an assessment of selected birth outcomes. The site contaminants included polycyclic aromatic hydrocarbons (PAHs), benzene, pentachlorophenol (PCP), and dioxin. This review included many types of cancers; therefore, in addition to all cancers combined, specific types were also assessed. The results of this review have been peer reviewed and the report is being finalized.

Bayou Bonfouca, St. Tammany Parish - A health statistics review was conducted at this site to evaluate the relationship between cancer occurrence and site proximity. The review also included an assessment of selected birth outcomes. The site contaminants included PAHs in creosote. This review included many types of cancers; therefore, in addition to all cancers combined, specific types were also assessed. The results of this review have been peer reviewed and the report is being finalized.

Combustion Inc., Livingston Parish - A health statistics review was conducted on this site to evaluate the relationship between cancer occurrence and site proximity. The review also included an assessment of selected birth outcomes. The site contaminants included arsenic, lead, vanadium, and polychlorinated biphenyls (PCBs). This review included many types of cancers; therefore, in addition to all cancers combined, specific types were also assessed. A draft of this review is being prepared for peer review.

Louisiana Database Project State-Based Surveillance - This project is using geographic information system (GIS) technology to create a surveillance system by joining state health outcome databases in **Louisiana** with appropriate environmental databases. The resulting surveillance system will allow identification of specific areas of exposure and increased disease prevalence throughout the state and, subsequently, appropriate analytical epidemiological investigations. Tumor registry and vital statistics (births and deaths) data for the Mississippi River parishes are being added to the system. A pilot project demonstrating the use of GIS as a tool for managing and analyzing existing demographic, environmental, and health outcome databases in Ascension parish has been completed. A demonstration project evaluating blood-lead data and environmental factors in Orleans and Lafourche parishes has been completed.

Toxicological Profiles

ATSDR develops toxicological profiles that describe health effects, environmental characteristics, and other information, for substances found at NPL sites. These profiles contain information on pathways of human exposure and the behavior of toxic substances in environmental media such as air, soil, and water. In the past 5 years, more than **1,522** of these profiles have been supplied directly by ATSDR to requesters, including representatives of federal, state and local health and environmental departments; academic institutions; private industries; and nonprofit organizations; in **Louisiana**.